



**State of Louisiana  
Department of Natural Resources  
Coastal Engineering Division**

**2006/2007 Annual Inspection  
Report**

for

**BOSTON CANAL/VERMILION  
BAY SHORE RESTORATION  
PROJECT  
(TV-09)**

State Project Number TV-09  
Priority Project List 2

May 1, 2007  
Vermilion Parish

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## **I. Introduction**

The Boston Canal/Vermilion Bay Shore Restoration Project consists of approximately 466 acres of brackish marsh and open water. It is located in Vermilion Parish, approximately 12 miles south of Delcambre, LA on the northern bank of Vermilion Bay and at the mouth of Boston Canal. It is bounded on the south by Vermilion Bay, on the west by Mud Point, and on the east by Oaks Canal. (See Appendix A).

The Boston Canal/Vermilion Bay Shore Restoration Project was authorized by Section 303(a) of Title III Public Law 101-646, the Coastal Wetlands Planning Protection and Restoration Act (CWPPRA) enacted on November 29, 1990 as amended and approved on the second Priority Project List. The Boston Canal/Vermilion Bay Shore Restoration Project has a twenty year (20 year) economic life, which began in October 1995.

## **II. Inspection Purpose and Procedures**

The purpose of the annual inspection of the Boston Canal/Vermilion Bay Shore Restoration Project (TV-09) is to evaluate the constructed project features to identify any deficiencies and prepare a report detailing the condition of project features and recommended corrective actions needed. Should it be determined that corrective actions are needed, LDNR shall provide, in the report, a detailed cost estimate for engineering, design, supervision, inspection, and construction contingencies, and an assessment of the urgency of such repairs (O&M Plan, 2002). The annual inspection report also contains a summary of maintenance projects, if any, which were completed since completion of constructed project features and an estimated projected budget for the upcoming three (3) years for operation, maintenance and rehabilitation. The three (3) year projected operation and maintenance budget is shown in Appendix C.

An inspection of the Boston Canal/Vermilion Bay Shore Restoration Project (TV-09) was held on May 1, 2007 under clear skies and mild temperatures. In attendance were Stan Aucoin, Herbert Juneau, Melvin Guidry, and Garrett Broussard of LDNR. NRCS was represented by Dale Garber. Parties met at the Lafayette Field Office of CED and proceeded to the TV-09 project area. The annual inspection began at approximately 9:30 am.

The field inspection included a complete visual inspection of all features. Staff gauge readings were used, when available, to determine approximate elevations of water, rock weirs, earthen embankments, steel bulkhead structures and other project features. Photographs were taken at each project feature (see Appendix B) and Field Inspection notes were completed in the field to record measurements and deficiencies (see Appendix D).

## **III. Project Description and History**

The Boston Canal Project involves the installation and maintenance of approximately 1,405 linear feet of foreshore rock dike along the northern bank of Vermilion Bay and both east and

west banks of Boston Canal at its convergence with Vermilion Bay. Also included is the installation of approximately 34,000 plantings of smooth cordgrass (~14 miles) along the northern bank of Vermilion Bay between Mud Point and Oaks Canal. The purpose of the project is to maintain the integrity of approximately 466 acres of wetlands in the vicinity of Boston Canal by stabilizing the northern bank of the Vermilion Bay shoreline and to prevent further regression of the banks at the mouth of Boston Canal.

The principal project features include:

- 1 - Approximately 1,405 linear feet of rock breakwater on the northern bank Vermilion Bay at the mouth of the Boston Canal in Vermilion Parish
- 2 - Approximately 1100 linear feet of sediment fencing which consists of all lumber, hardware and woven geotextile fabric.
- 3 - Approximately 34,000 smooth cord grass plants planted between Mud Point and Oaks Canal along the northern bank of Vermilion Bay.

#### **IV. Summary of Past Operation and Maintenance Projects**

**General Maintenance:** Below is a summary of completed maintenance projects and operation tasks performed since October 1995, the construction completion date of the Boston Canal/Vermilion Bay Shore Protection Project.

**Maintenance Project – Loland Broussard:** This maintenance project included the modification of the sediment trapping fences constructed behind the rock dikes by Loland Broussard of NRCS in concurrence with LDNR and at no cost to CWPPRA on March 7, 2002. Modification of the fences involved cutting the geotextile panels from the top of the fence down to approx. 6" below the mud line (~ 30") and removing the panel. The 4x4 wooden posts were not disturbed and left intact. The reinforcement wire behind each panel was severely deteriorated and virtually non-existent. The southern most fences were preventing sediment from filling the entire area behind the dikes. Since the fences have been removed, sediment has been more evenly distributed. Vegetation continues to increase.

**Structure Operations:** There are no operations associated with this project.

#### **V. Inspection Results**

##### **Rock breakwaters**

For the most part, the breakwaters are in excellent post construction condition. There is no apparent toe scour or rock displacement. The western end of the dike where it ties into the Vermilion Bay shoreline has not significantly worsened. A small gap left during original

construction appears to have caused this problem. While the situation is similar on the SE tie-in, it is not as severe. No gap was left on this end during construction. Recommendations made to repair these gaps during the O & M inspection of June 2003 have been reconsidered due to costs and logistics associated with such repairs. These areas have been and will continue to be closely monitored, and should the situation significantly worsen, steps will be taken to close/stabilize these areas. Signage and associated pilings are stable and functioning. (Photos: Appendix B, Photos 1 - 4)

#### **Sediment Fencing**

The sediment fencing has been removed as stated in Section IV above.

#### **Smooth Cordgrass plantings**

The shoreline plantings were not directly inspected on this trip due to time and wave constraints. They are, however, expected to be in similar condition as previous inspections. All vegetation in the area, including the vegetation behind the rock dikes, has rebounded from the effects of Hurricane Rita.

### **VI. Conclusions and Recommendations**

The Boston Canal/Vermilion Bay Shore Restoration Project is in good condition and functioning as intended. Installation of a staff gauge in the vicinity is recommended. Maintenance items to be addressed in CY 2007:

- Install staff gauge

**Appendix A**  
**Project Features Map**

Annual Inspection Report  
 BOSTON CANAL/VERMILION BAY SHORE RESTORATION PROJECT  
 State Project No. TV-09



## **Appendix B**

### **Photographs**



Annual Inspection Report  
BOSTON CANAL/VERMILION BAY SHORE RESTORATION PROJECT  
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**Photo 1**—east side of Boston Canal



**Photo 2**—west side of Boston Canal





**Photo 3**—south east tie-in of rock dike



**Photo 4**—south west tie-in of rock dike

## **Appendix C**

### **Three Year Budget Projection**

Annual Inspection Report  
 BOSTON CANAL/VERMILION BAY SHORE RESTORATION PROJECT  
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**BOSTON CANAL/ TV-09 / PPL 2**  
**Three-Year Operations & Maintenance Budgets 07/01/2007 - 06/30/10**

<u>Project Manager</u>	<u>O &amp; M Manager</u>	<u>Federal Sponsor</u>	<u>Prepared By</u>
Pat Landry	Mel Guidry	NRCS	Mel Guidry

	2007/2008	2008/2009	2009/2010
<b>Maintenance Inspection</b>	\$ 5,407.00	\$ 5,570.00	\$ 5,737.00
<b>Structure Operation</b>			
<b>Administration</b>		\$ -	\$ -
<b>Maintenance/Rehabilitation</b>			

07/08 Description: Install staff gauge

<i>E&amp;D</i>	
<i>Construction</i>	\$7,500.00
<i>Construction Oversight</i>	
<i>Sub Total - Maint. And Rehab.</i>	<u>\$ 7,500.00</u>

08/09 Description

<i>E&amp;D</i>	\$ -
<i>Construction</i>	\$ -
<i>Construction Oversight</i>	\$ -
<i>Sub Total - Maint. And Rehab.</i>	<u>\$ -</u>

09/10 Description:

<i>E&amp;D</i>	\$ -
<i>Construction</i>	\$ -
<i>Construction Oversight</i>	\$ -
<i>Sub Total - Maint. And Rehab.</i>	<u>\$ -</u>

	2007/2008	2008/2009	2009/2010
<b><u>Total O&amp;M Budgets</u></b>	<b><u>\$ 12,907.00</u></b>	<b><u>\$ 5,570.00</u></b>	<b><u>\$ 5,737.00</u></b>

<b><u>O &amp; M Budget (3 yr Total)</u></b>	<b><u>\$ 24,214.00</u></b>
<b><u>Unexpended O &amp; M Budget</u></b>	<b><u>\$ 156,655.76</u></b>
<b><u>Remaining O &amp; M Budget (Projected)</u></b>	<b><u>\$ 132,441.76</u></b>

## **Appendix D**

### **Field Inspection Form**

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MAINTENANCE INSPECTION REPORT CHECK SHEET

Project No. / Name: Boston Canal/Vermilion Bay Bank Protection

Date of Inspection: May 1, 2007 Time: 9:30 a.m.

Structure No.

Inspector(s): Stan Aucoin, Herb Juneau, Melvin Guidry,  
 Garrett Broussard, LDNR  
 Dale Garber, NRCS

Structure Description: Rock Dike

Water Level Inside: \_\_\_\_\_ Outside: \_\_\_\_\_

Type of Inspection: Annual

Weather Conditions: Sunny and cool temperatures

Item	Condition	Physical Damage	Corrosion	Photo #	Observations and Remarks
Steel Bulkhead / Caps	N/A				
Steel Grating	N/A				
Stop Logs	N/A				
Hardware	N/A				
Timber Piles	N/A				
Timber Wales	N/A				
Galv. Pile Caps	N/A				
Cables	N/A				
Signage / Supports	Good				
Rock Dike	Excellent			1,2,3 & 4	Southeast and southwest tie-ins not significantly worse. Will be monitored.
Vegetative Plantings	N/A				Not directly inspected on this trip.

What are the conditions of the existing levees?  
 Are there any noticeable breaches?  
 Settlement of rock plugs and rock weirs?  
 Position of stoplogs at the time of the inspection?  
 Are there any signs of vandalism?

## **Appendix E**

### **Locations to be Monitored**